# THE DIAGNOSIS OF EARLY PREGNANCY.[1]

BY

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THE positive diagnosis of pregnancy has been a topic of prime importance to physicians in all ages. Until quite recently it was a question that was often settled by allowing sufficient time to elapse for it to settle itself, the appearance of the child being evidence that could not be successfully disputed. A great step in advance was made when it was discovered that the fetal heart sounds can usually be heard during the latter half of pregnancy. Many obstetricians have not yet gotten beyond that point, and in many of our medical colleges it is still taught, and the great majority of practitioners now believe that a reasonably certain diagnosis of pregnancy cannot be made until the fetal heart sounds are audible. In the days gone by this hesitancy and indecision was not of so great importance as it has become since opening the abdomen has become an every-day affair. Formerly the physician was called in to decide the cause of the cessation of menses or the enlargement of the abdomen of some unmarried girl whose future reputation might be staked on his decision; or married women anxious to bear children, or others equally anxious not to have them, came to have their hopes or fears confirmed. These are sufficient reasons for the physician to exercise extreme caution, and are just as potent now as at any time in the past; but recent surgical advances have added to these the great necessity of being able to recognize a pregnancy and distinguish it from other pelvic conditions at a period long before the fetal heart sounds can be heard. Not only is the reputation of the patient at stake, but the life of the child and the life of the patient, to say nothing of the chagrin of the operator who cuts down upon a normal pregnancy. These dangers to life and reputation make the diagnosis of pregnancy of much greater importance now than ever before. It would be rather overstating the case to

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say that a two months' pregnancy can be absolutely diagnosed in every instance, but it is well within bounds to say that a two months' pregnancy is the easiest to diagnose of all pelvic growths which present a tumor of equal size, and, further, that it is only where unusually exceptional difficulties are present that it is not possible to make a positive diagnosis.

In examining nearly three thousand women a very considerable number of pregnancies have been discovered, ranging from the sixth week of gestation to several months. Many of these patients have been seen subsequently, and in not a single instance has the diagnosis of pregnancy failed to be followed either by an abortion or labor at full term. This, of course, does not prove that no mistakes were made, but it indicates that the number of mistakes must have been small or at least a few would have been discovered.

The observations made on seventy-five of these cases, nearly all from seven to nine weeks pregnant, form the basis of this paper. In all of these the records are not so complete as could be desired. Some errors of omission have been committed in the failure to record in all cases the presence or absence of some of the minor signs; and while a mental note was taken of them at the time, the fact that they were not recorded makes the impression that some of these minor signs are not present as frequently as they really occur. Again, it should be remembered that the breast signs are much more clear in women pregnant for the first time than in multiparæ; fifty-one of the seventy-five women examined are known to have been pregnant one or more times before the time at which they were examined. Of the remaining twenty-four nearly all were certainly pregnant for the first time, though a few may have had miscarriages which were not mentioned and left no definite traces.

The so-called "morning sickness," upon which so much value is placed by both the profession and the laity, is an indication of pregnancy the value of which has been over-estimated. The sources of error are two: first, it is very frequently absent; second, it is very often produced by other causes than pregnancy. A typical morning sickness is not infrequently met with in patients who have a uterine displacement or an extensive salpingitis. When it is due to pregnancy it may begin at any period, but the characteristic time for its appearance is the day upon which the first missed period would have fallen. When it begins at this time and continues, and when associated

with the absence of a menstrual period in a woman who has previously been regular and who has not had any previous stomach disorder, it becomes a sign of much value. I have made a note of its presence but thirteen times in seventy-five early pregnancies. This is no doubt rather under the average, but it is by no means so constant as is generally supposed.

The cessation of the menses at a definite time, when they had previously been regular both in time and quantity, is always significant of pregnancy. Fifty of the seventy-five patients examined gave such a history. Not infrequently a woman will menstruate once after she becomes pregnant, but such a flow, while it comes at the regular time, will usually be smaller in quantity than is normal for that woman.

Seventeen patients were either nursing and had had entire absence of menses since the previous confinement, or else were so irregular in their periods that nothing was to be learned from the menstrual history. Eight had had a discharge of blood from the uterus less than one month before the time when they were found to be pregnant. These patients usually belong to one of three classes: first, those who have one or more periods after becoming pregnant; second, hemorrhages due to threatened abortion, either accidental or criminal; third, those who, seeking to deceive the examiner, have deliberately stated that they had menstruated when they had not. Hemorrhages from placenta previa do not come on until a period later than that now under consideration. These patients who have recently had a discharge of blood constitute a very difficult class of cases, and while in many of them it is easy to say that they have recently been pregnant, the difficult and important question to decide is whether the ovum has escaped. This can usually be decided by a bimanual examination.

In many cases, and particularly in nulliparæ, the history and breast signs will be sufficiently clear to form a basis for a reasonable suspicion of the existence of pregnancy. In multiparæ both the history and minor signs may be entirely lacking. In either class of cases we are compelled to depend upon a physical examination for a definite diagnosis.

It is well to examine the breasts of all patients who complain of any pelvic trouble. This suggestion becomes an imperative duty whenever there is the slightest suspicion of pregnancy. It is true that a positive diagnosis cannot be made from the breast signs, but several points which assist materially in the sum of probabilities can usually be discovered. The breast

signs are most constant and most reliable in those pregnant for the first time, and these are the cases in which they are of the most value to us. They are less constant and less clearly marked in those who have had several children, but in these patients the abdominal walls are usually sufficiently relaxed to render a bimanual examination an especially easy task. During lactation the breast signs are, of course, useless.

It is a matter of great difficulty to determine which of these signs is of the greatest value. They are very closely associated, and when one is well marked there are usually others perfectly clear. I believe, though, that the enlargement of the papillæ comes the earliest and is the most constant and easily recognized. They are situated in the area around the nipple which is affected by the increased pigmentation. Their increase in size is quite as marked in multiparæ as in women who have not borne children, consequently they are valuable signs in a larger number of cases than most of the other breast signs. At times a small amount of secretion can be forced from them, but it cannot be regarded as of any great value.

Enlargement and tenderness on pressure are very early and constant signs and are often accompanied by a pricking sensation. This early enlargement can be distinguished from the deposit of fat by the breasts being firm and standing out from the chest wall. The fat breast is large, soft, and even in nulliparæ is more or less pendulous. The breasts do not assume the knotted or corded feel, produced by the enlargement and filling of the milk ducts, until a period of pregnancy later than that now under discussion. The increase in size and tenderness of early pregnancy is more of an erection than a hypertrophy. Of the twenty-four women pregnant for the first time, the presence of secretion in the breast was noted in fourteen, in four its absence was recorded, and in six there was no record. By the end of the second month a small amount of secretion is found in the breasts of a very large per cent of cases. By the end of the third month it is present in nearly all cases. This is a very valuable sign, but it must be remembered that it occurs occasionally in girls who are not, and who never have been, pregnant; but these are rare, and will, as a rule, be accompanied by a history that will easily distinguish them. In women who have borne children there may remain in the breasts for a long time sufficient secretion to be extracted by pressure, while during lactation, of course, the sign is absolutely useless. The increased deposit of pigment around the nipple

is, as a rule, clearly marked in brunettes by the second month. It becomes deeper and more apparent as pregnancy progresses. In patients of the blond type the deposit of pigment is usually so slight as to be of little value. The fact that this deposit never entirely disappears makes this sign of very little value after the first pregnancy. In the first pregnancy it holds a prominent place among the breast signs.

An inspection of the breasts, the external genitals and their condition, and especially the color of the visible portions of the vagina, should be made. The discoloration of the vagina, due to the distension of its vessels with venous blood, has long been considered one of the most reliable of the secondary signs of pregnancy on account of its constancy. It is of much more value in the later stages of gestation than in the earlier. I have recorded it as distinctly marked fifteen times in seventy-five cases. These women were all, with very few exceptions, less than three months pregnant. It is stated that this congestion is also sometimes due to the pressure of pelvic or abdominal tumors; but so far I have failed to see this discoloration in anything but pregnancy. This frequent association with pregnancy, and rarely with anything else, makes it strongly indicative of pregnancy.

Before attempting a digital examination the urine should invariably be drawn by a catheter. It is better to have the rectum empty also, but unless it is very much overloaded it gives little trouble.

In cases that have advanced as far as eight weeks, by the vaginal touch the superficial softening of the vaginal portion of the cervix, which gives a velvety feel, can be detected. This condition was found in all of the seventy-five cases upon which this paper is founded. It is very rarely absent. I have seen but one pregnant woman who had a persistently hard cervix, and that was due to a cicatricial tissue, and when labor came on it was necessary to forcibly dilate it. A similar soft condition of the cervix is sometimes found in some of the inflammatory conditions of the uterus. So that it should be borne in mind that while it is practically always present in pregnancy, and is consequently of much value, its presence in other cases detracts from its reliability. In attempting to elicit this sign the finger should be passed very lightly across the lips of the cervix. Hard pressure entirely destroys the characteristic feel. In a very large per cent of women, where the uterus was in a normal position before impregnation, as soon as it begins to

enlarge it has a tendency to tilt forward, and can be felt through the anterior vaginal wall without any external pressure being made to force it down.

I have never been able to make anything definite out of Hegar's jug-shaped uterus in a sufficiently large proportion of cases to render it of much value. On the other hand, by an ordinary bimanual examination it has been possible to arrive at conclusions that, at least to myself, have been eminently satisfactory. Just as in making a bimanual examination in other conditions, it is sometimes necessary to use an anesthetic to relax the abdominal walls; but ordinarily the anesthetic can be dispensed with. When the uterus is in the normal position, by placing two fingers of one hand in the vagina, bringing the tips of the fingers against the anterior vaginal wall—or, when retroverted, behind the cervix—and the other hand over the abdominal wall, the size, shape, and consistence of the uterus can be easily determined. At eight weeks the uterus is about the size of a large orange, is regular in shape and distinctly *cystic*. Practically a cystic uterus is always a pregnant uterus. There is at least one exception to this statement. A cystic fibroid will give nearly the same sensation as a pregnant uterus. But the cystic fibroid is a very rare condition, and with it is an absence of all the symptoms and minor signs of pregnancy. It is a slow growth, and if there is any possible doubt it can be settled by a delay of ten days. In that length of time a pregnant uterus would increase very appreciably in size; the fibroid would not change materially.

It is hardly necessary to go into the differentiation of pregnancy from other small pelvic tumors. All that is necessary is to make sure that the tumor felt is the body of the uterus and that it is *cystic*. If the tumor felt is not the body of the uterus or is not cystic, it may be one of some dozen pelvic possibilities. In each of the seventy-five cases the other signs and symptoms of pregnancy were given due consideration, but the diagnosis was not made until a cystic uterus was clearly felt.

It is very difficult to learn the time of confinement of the nomadic dispensary patient. I have been able to find thirty of the seventy-five examined. Of these, fourteen were confined at full term, ten aborted, and six were re-examined in the latter stages of pregnancy, though the exact dates of confinement are not known.

Of the fourteen that were confined at full term, eleven were confined at periods varying between two hundred and one days

and two hundred and fifty-seven days after examination, or, omitting the two extremes, the average duration of pregnancy after the examination was two hundred and eighteen days. All three of those confined less than two hundred days after examination were recorded as at least three months pregnant at the time they presented themselves.

Ten abortions in thirty pregnancies is a very high percentage. Some of these were accidental, but there is no doubt that the majority of them were produced by artificial means. Six of the ten were single women pregnant for the first time. One of the married women is known to have produced an abortion by artificial means. Another wished to have an abortion performed, and as she a few weeks later aborted it is highly probable that she had some assistance. This leaves only two that were probably accidental abortions.

In reviewing statistics of this kind we are impressed forcibly with the fact that the presumed period of gestation—that is, the length of time elapsing between the last menstrual period and the labor—is very variable. This variation is produced in two ways: first, by some women menstruating after they have become pregnant, and thus apparently shortening the period of gestation; second, by the prolongation far beyond two hundred and eighty days. In five of the present series of cases, in which the last menstrual period was recorded so early in the pregnancy that little doubt could be thrown on its accuracy, the length of time elapsing between the menstrual period and the confinement varied from two hundred and eighty-six days to three hundred and four days.

The difficulties to be overcome in making the diagnosis, and some of the exceptions to the general rules, can best be illustrated by a few special cases.

Case 372.—This patient has been under observation, from time to time, for five years. She had a small uterus, acutely anteflexed. In 1893 she again presented herself. This time she had an abscess in both vulvo-vaginal glands, undoubtedly of gonorrheal origin. Later in the year her uterus was dilated, curetted, and packed with gauze. June 19th, 1894, she stated that her menses had been absent since April 13th. She had no morning sickness. The breasts were prominent, slightly tender, and a slight amount of secretion was present. The cervix was velvety; the body could be easily felt through the anterior vaginal wall, was enlarged to the size of an orange, and was cystic. A diagnosis of pregnancy was recorded. She was not

seen again until July, 1896. The first question that was put to her was, "What was the date of your confinement?" She said January 27th, 1895. That is, she was confined two hundred and twenty-three days after the diagnosis was made and two hundred and ninety days after the last period. This case presented no special difficulties, except that the patient was not married and denied the possibility of being pregnant.

CASE 972.—Presented herself January, 1893. She said that her menses had been regular up to and including September. In October, suspecting herself to be pregnant, she took oil of thyme and produced a slight discharge. There was no flow in November. On December 26th had a discharge of water and then blood. She then took oil of pennyroyal and had a considerable flow on January 14th, six days before the examination was made. She had had four children and one miscarriage previously, so that her breast signs were of no great value; but solely upon the physical condition of the uterus, as ascertained by bimanual examination, it was determined that she had not succeeded in producing the abortion which had been attempted. This was confirmed later by her having a full-time child on July 11th. This patient must have been a little more than three months pregnant at the time the examination was made, but the irregular uterine flow and the attempts at abortion rendered the history useless.

CASE 1268.—This patient had been suffering for nearly a year from headache, constipation, loss of appetite, weakness. On September 6th, 1894, she complained, in addition to these other troubles, of sick stomach. At the time she was nursing a 13-months-old child, so that the breast signs were entirely wanting. There was no discoloration of the vagina; the cervix was granular and of a blue color; the body of the uterus was the size of an orange, very soft, and fluctuating. A diagnosis of pregnancy of a little over two months was made. She was seen nine weeks later. The vagina was distinctly discolored, and the fundus half-way to the umbilicus.

CASE 1434.—White, 42 years old; had been married seventeen years and had seven children, the last one over three years before presenting herself on February 27th, 1894. Her menses had been regular up to January 12th. She insisted that she was not pregnant, because she had been in that condition so often that she felt that she ought to know. Her age made it seem probable that the menopause was setting in. Upon examination her breasts were found to be tender, but

neither tense nor secreting. The vagina was discolored. The cervix was everted and granular. The body of the uterus was in the normal position, but enlarged and soft. On these points a diagnosis of pregnancy was made. She was last seen June 20th, when the gestation had advanced to such a stage as to be unmistakable.

CASE 1461.—White, aged 24; single. The patient was seen March 7th, 1894. She stated that she had never menstruated but three times in her life, the last time having been in June, 1893; that for the last four months she had had attacks of vertigo and sometimes fainting, which have recurred regularly every four weeks. She had no morning sickness. On examination her breasts were enlarged, pigmented, and secreting. The vagina was purple; the cervix soft; the body large, rising far above the symphysis, and cystic. When told that she was without a doubt pregnant she indignantly denied the possibility of such a condition. Three months later she came to make inquiries as to confinement and was referred to the maternité.

CASE 1512.—White, aged 22; married; presented herself April 27th, 1894. She was then nursing a 4-months-old child and complained of having lost blood in small quantities continually for three weeks. She was constipated and had very little appetite. She came the second time on June 21st. The hemorrhage had ceased after the previous visit and had not returned. But she now complained of considerable pelvic pain. She was still nursing her child, now over 6 months old. Upon examination her uterus was found to be about double the normal size and cystic. She was told that she was again pregnant. She was not seen again until November, 1895, when it was learned that she was confined January 7th, 1895, or two hundred and one days after the diagnosis was made.

When seen the last time she was nursing this second one and about three months pregnant with the third one.

CASE 1832.—White; married; mother of three children, the youngest 2 years old; came to the dispensary with her husband December 7th, 1894. Her menses had been absent about four months; the exact date of last flow was not known. She complained that she had had trouble with her head for a year past; that she could not control her feelings; that she was not able to concentrate her attention enough to attend to her household duties. She had no morning sickness. She stated that within two weeks she had consulted a physician, who had examined her and said that she had some womb trouble and that she must be operated upon to be relieved.

Physical examination: The breasts were very flabby; perineum ruptured and relaxed; vagina relaxed and discolored; abdominal wall thin and extremely pliable; the cervix soft and granular; the body of the uterus was larger than a closed fist and cystic. She was told that she was undoubtedly pregnant. She was confined July 19th, 1895, two hundred and twenty-four days after the examination.

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